BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Proposals from Entities Seeking to Be	)	GN Docket No. 15-319
Spectrum Access System Administrators and	)	
Environmental Sensing Capability Operators	)	
In the 3550-3700 MHz Band	)	

Sony Corporation Spectrum Access System
Initial Commercial Deployment Proposal

Introduction

Sony Corporation (Sony)[1] respectfully submits the following proposal for a short-term, limited geographic commercial deployment (Initial Commercial Deployment or ICD) of its Spectrum Access System (SAS), as specified in the recent Public Notice in the above-referenced proceeding.[2]

This proposal identifies the protocols, standards, and procedures that the Sony SAS will implement and follow during ICD. As directed by the ICD Public Notice, it includes descriptions of the processes for: user registration, SAS-CBSD and SAS-SAS communications, professional installation, use of Commission databases, protection of DPAs and incumbent operations, and interference reporting and mitigation. It also includes explanations of ICD testing scenarios and parameters, the method for FCC, NTIA, and DoD staff to monitor and evaluate SAS operations

[1] Sony Corporation is a leading manufacturer of audio, video, game, communications, and information technology products for the consumer and professional markets.
[2] *Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System Initial Commercial Deployment Proposals*, Public Notice, DA 18-783 (July 27, 2018) ("ICD Public Notice").

during ICD, and a summary of verification and reporting mechanisms. Sony pledges to supplement this proposal with new information as it becomes available.

User Registration Process

Users will register with the Sony SAS through a web portal. To register, a user must first enter into a service agreement with Sony and provide certain identifying information. After completing the agreement, the user will receive a private URL, and must use it to access the web portal. Upon access in the portal for the first time, the user will be prompted to enter a legal name, mailing address, physical address, contact email, and phone number. The Sony SAS will validate this information, and then will create a system-wide, unique user registration identity (UR-ID), which will conform to Section 2.2 of RFC-7542.[3] Upon registration, the user will receive a temporary password, which must be changed during the user's initial login. Going forward, the user must authenticate to the Sony SAS by using this UR-ID and password.

As part of the user registration process, the Sony SAS will also record and maintain certain additional information related to the user account, including:

- registration date
- registration expiration or term
- registration state (valid, expired, pending enforcement, revoked)
- registering agent (operator, service provider, or other)
- registration fee paid (optional, true or false indication)
- CBSD-IDs registered by the user
- PALs owned by the user
- PPAs registered to the user
- PPAs leased by the user to third-party lessees
- CBSD Group Identifiers that the user has created to form groups of CBSDs

[3] DeKok, A., "The Network Access Identifier", RFC 7542, May 2015, available at http://tools.ietf.org/html/rfc7542#section-2.2.

SAS-CBSD Communications

The Sony SAS will communicate with and manage CBSDs using the protocols defined by the Wireless Innovation Forum standard WINNF-TS-0016.[4] These protocols support registration, channel grant, and channel release for multiple CBSDs and/or domain proxies (DPs).

[redacted]

SAS-SAS Interoperability

The Sony SAS will synchronize and exchange information with other SASs using the SAS-SAS communication protocol that is defined in WINNF-TS-0096.[5] It will perform a full record dump daily, and will follow the information security procedures and incumbent protection methods defined in WINNF-TS-0061.[6] During ICD, Sony will conduct its SAS-to-SAS data exchange with the SAS operated by Commscope or Amdocs, and will not need to simulate the existence of a separate SAS. In addition, Sony hopes to conduct a three-way SAS-to-SAS data exchange with both Commscope and Amdocs.

Professional Installation

Certified Professional Installers (CPIs) will register with the Sony SAS through a web portal. The CPI will be required to provide the following information: legal name, mailing

[4] WINNF-TS-0016 Version V1.2.1, "Spectrum Access System (SAS) - Citizens Broadband Radio Service Device (CBSD) Interface Technical Specification" (Jan. 3, 2018).
[5] WINNF-TS-0096 Version V1.3.0, "Spectrum Access System (SAS) - SAS Interface Technical Specification" (Apr. 24, 2018).
[6] WINNF-TS-0061 Version V1.3.0, "Test and Certification for CBRS; Conformance and Performance Test Technical Specification; SAS as UUT" (Aug. 21, 2018).

address, physical address, contact email, phone number, a certification number from an accredited CPI training program (CPIR-ID), the initiation date and expiration date for the CPI's license, and the CPI's private key. The Sony SAS will validate the CPIR-ID, contact information, and address by using the Wireless Innovation Forum's CPI database. After validation, the Sony SAS will provide the CPI with a method for authenticating users by use of the CPI account.

When a CPI registers a CBSD or DP with the Sony SAS by using the SAS-CBSD protocol defined in WINNF-TS-0016, the Sony SAS will decode the REG-Conditional Request Parameters by using the CPI's private key. The CPI can also provide the REG-Conditional Request Parameters directly to the Sony SAS using the web registration portal.

The Sony SAS will reject authorization requests from CPIs that do not conform to the installation parameters specified in Part 96.

SAS Utilization of Commission Databases

The Sony SAS will access, read, and use data directly from FCC databases daily using the API defined by the FCC.

DPA Protection

[redacted]

Incumbent Protection Implementation

[redacted]

[redacted]

Interference Reports and Mitigation

During ICD, all SAS administrators including Sony will participate in an email-based interference mitigation information exchange. Sony will receive interference reports via an email containing the following information:

- User FRN
- User call sign
- Date of report
- Time of report
- Latitude and longitude of impacted point
- Impacted Frequency Channel Range
- Protected Entity interference threshold
- Interference level (dBm/MHz)
- Date of observed interference
- Time of observed interference
- Last date, if any, that interference was observed at this location
- Prior interference level, if any
- Duration of the interference
- Equipment used for interference measurement
- Antenna beamwidth, azimuth, gain, and pattern of the impacted entity
- Preferred technical contact info for follow-up questions/coordination

- Additional notes, as applicable

Sony will acknowledge receipt of this report within 24 hours. Following receipt, one or more SAS administrators will be responsible for validating the accuracy of the report, and will confirm that all SAS administrators have received it. Resolution of the interference will occur in one to four weeks, depending on the nature of the interference involved. This resolution will be reported back to the affected non-federal incumbents.

Testing Scenarios and Parameters

[redacted]

Staff Review, Verification, and Reporting

The Sony SAS will allow outside parties to monitor its activity through a web portal. After registering with the portal and receiving an authorization, FCC, NTIA, and DoD staff will be able to follow CBSD activity and the operations of the Sony SAS in real time. Sony will also provide near real-time access to the SAS operation log, which includes time-stamped records of all SAS-CBSD communications. These log entries can be cross-referenced to verify proper operation of the SAS. A sample of this operation log is attached to this proposal as Annex A. At the conclusion of ICD, Sony will provide an annotated version of the log to further demonstrate compliance with the Commission's rules and the requirements of the ICD Public Notice.

Conclusion

Based on the foregoing, Sony requests that the Commission approve the initial commercial deployment proposal as described herein and authorize Sony to begin implementation and operation.

Respectfully Submitted,

SONY CORPORATION

/s/

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Annex A

[redacted]